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NRO REVIEW COMPLETED

COR-1522

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20 Jan 62

MEMORANDUM FOR : Under Secretary of the Air Force

SUBJECT : Evaluation of CORONA Photography

1. I was extremely interested in receiving your suggestion for an engineering review of CORONA mission materials. As you know an analysis is made of each successful mission by NPIC, ITXK, EK, and LMSC personnel with appropriate participation by individuals from our respective staffs. Such analyses are made to assess overall quality, processing, camera performance, and vehicle stability. The analyses are made on an as available basis so as not to interfere with reproduction and interpretation, but with the intent to make immediate corrections or adjustments for subsequent flights. This type of analysis does not, of course, provide precisely measured data of an absolute nature as I foresee from employment of the reportedly excellent equipment at AFSPFL.

2. Briefly what has been learned so far and mainly from Mission 9029 launched 12 December is as tabulated below:

<u>Emulsion</u>	<u>Camera</u>	<u>Resolution</u>	<u>Limiting sun angle</u>
SO-243	C <sup>1</sup> /C	25-40 ft.	N.A.
SO-130	C <sup>1</sup>	20-35 ft.	Approx. 2°
SO-130	C <sup>1</sup> ''	15 ft. best	Approx. 2°
SO-132	C <sup>1</sup> '''	10 ft. best	Estimated 3°

3. We are considering a proposal from ITXK to perform a comprehensive analysis of a nature to which I believe you refer. Very briefly this would include precise microphotographic measurements, analysis of camera mechanical operation, and evaluation of quality and uniformity of imagery. This would be intended to provide greater quantity and precision of data not only for correction and innovation in the present system, but a design background for new improved future systems. In addition to this I intend to discuss with you one or two other ideas for experiments intended to assist in this latter objective.

4. I lean to the view that such engineering analyses may be worth having from both AFSPFL working under direction of a governmental group such as you cite and also from a small task force representing ITXK and EK, but reporting independently directly to ourselves. The security measures

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need be satisfactory of course in either case. I am reasonably convinced that TTEK are well enough motivated in this instance so as to invalidate the usual argument against a contractor checking his own work.

5. I should hope that our primary return from both of these efforts will be more toward increasing our knowledge and understanding of satellite photographic phenomena rather than mission to mission evaluation already performed. For this reason, and perhaps more importantly, to allow no interference with mandatory processing and interpretation after each mission, I am inclined to think that the AFSPPL and/or TTEK-HK analyses could be made on a selective basis such as engineering passes, or one or two complete C''' or MURAL missions rather than each and every case.

RICHARD M. BISSELL, JR.  
Deputy Director  
(Plans)

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